

CLAIM AMENDMENTS

1. (currently amended): ~~Temperature~~ A temperature sensitive polymer having a lower critical solution temperature that changes during incubation in an aqueous solution or medium, which polymer is a homo or interpolymer of a hydrophobically modified hydroxyalkyl(meth)acrylamide.

2. (currently amended): ~~Polymer according to~~ The polymer of claim 1, wherein the polymer comprises a hydrophobic group which is bound to the hydroxyalkyl (meth)acrylamide by a hydrolysable bond, ~~preferably by a bond selected from esters, orthoesters, amides, carbonates, carbamates, anhydrides, ketals, and acetals, more preferably by an ester bond.~~

3. (currently amended): ~~Polymer according to claim 1 or 2~~ The polymer of claim 2, wherein the hydrophobic group is ~~selected from alkyls, alkyl, aryls, aryl,~~ lactic acid ~~[[and]]~~ or lactic acid oligomers, ~~preferably from lactic acid and lactic acid oligomers.~~

4. (currently amended): ~~Polymer according to any one of the preceding claims~~ The polymer of claim 3, wherein ~~[[the]]~~ alkyl is selected from the group consisting of methyl, ethyl, propyl, butyl, pentyl and hexyl.

5. (currently amended): ~~Polymer according to any one of the preceding claims~~ The polymer of claim 1, which polymer is a homo or interpolymer of ~~[[a]]~~ an (N-(2-hydroxyalkyl) (meth)acrylamide lactate).

6. (currently amended): ~~Polymer according to~~ The polymer of claim 5, which polymer is selected from the group consisting of homopolymers and interpolymers of (N-(2-hydroxyethyl) methacrylamide lactates) and (N-(2-hydroxyethyl) acrylamide lactates).

7. (currently amended): ~~Polymer according to any one of the preceding claims~~ The polymer of claim 1, wherein the polymer comprises at least one component selected from

monolactates, dilactates, trilactates and tetralactates, preferably at least one of monolactate groups and dilactate groups.

8. (currently amended): ~~Polymer according to any one of the preceding claims~~ The polymer of claim 1, wherein the polymer is a copolymer of (a) at least one hydroxyalkyl (meth)acrylamide (lactate)_n, wherein n represents the number of lactate units, n being at least 3, ~~preferably an integer of 3 to 10, more preferably 3 or 4~~, and (b) at least one hydroxyalkyl (meth)acrylamide (lactate)_n, wherein n is 0, 1 or 2, ~~preferably 1 or 2~~.

9. (canceled)

10. (currently amended): ~~Polymer according to any one of the preceding claims~~ The polymer of claim 1, having a lower critical solution temperature before incubation below ~~mammalian~~ human body temperature and a different lower critical solution temperature after incubation above ~~mammalian~~ human body temperature, ~~and wherein the mammalian body temperature preferably is human body temperature~~.

11. (currently amended): A controlled release system comprising ~~[[a]]~~ the temperature sensitive polymer ~~according to any one of the preceding claims~~ of claim 1 and an active ingredient.

12. (currently amended): ~~Controlled~~ The controlled release system ~~according to~~ of claim 11, wherein the polymer is in the form of a polymeric micelle in which a hydrophilic block is present which hydrophilic block ~~preferably comprises a polyalkyleneglycol, more preferably a poly(ethyleneglycol)~~.

13. (currently amended): ~~Controlled~~ The controlled release system ~~according to~~ of claim 11 ~~[[or 12]]~~, wherein the system is in the form of a hydrogel.

14. (currently amended): ~~Controlled~~ The controlled release system ~~according to~~ of claim 13, wherein the hydrogel is an ABA block copolymer, wherein block A is a temperature

sensitive polymer ~~according to any one of the claims 1-10~~ of claim 1 and B is a hydrophilic polymer, ~~preferably a polyalkyleneglycol, more preferably a poly(ethyleneglycol).~~

15. (currently amended): ~~Targeting~~ A targeting drug composition, comprising a drug and particles of ~~[[a]]~~ the controlled release system of claim 11 ~~according to any one of the claims 11-14, which particles preferably have an average diameter of less than 200 nm more preferably in the range of 10 to 100 nm.~~

16. (currently amended): ~~Targeting~~ The targeting drug composition ~~according to~~ of claim 15, which further comprises a homing device.